

SWSLHD
Clinical Stream Development Priorities
Medical Imaging Clinical Stream
2018 – 2020

Leading care, healthier communities



Health
South Western Sydney
Local Health District

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Overview of Medical Imaging Clinical Stream in SWSLHD

SWSLHD Medical Imaging services provide a level six diagnostic, consultative, interventional and therapeutic radiology, nuclear medicine and molecular Imaging services, with high complex caseload, dedicated highly skilled medical and scientific staff, and state-of-art infrastructures.

SWSLHD Medical Imaging services performs over 310,000 procedures and therapies per annum encompassing all disease groups and is a key driver of all aspects of clinical services.

Medical Imaging has become integral part of disease screening, diagnosis, therapy planning and monitoring in Cancer, Cardiology, Neurodegenerative disease, Mental Health, Neurosciences, Surgery, Trauma, Bone and Joint Health, Emergency Medicine and Critical Care, Women's and Children, or many other clinical services.

The services are provided across 6 sites: Liverpool, Campbelltown, Camden, Bankstown, Fairfield and Bowral.








There are state-of-art facilities within Medical Imaging services in SWSLHD. Highlights include:

- Comprehensive diagnostic equipment and services: six CT, three MRI, PET-CT, SPECT-CT, endoscopic ultrasound, BMD, general radiography, in vivo and in vitro radiopharmacy services.
 - Liverpool Hospital installed the first GE Time-of-Flight PET-CT in the world in 2012.
 - There are MRI-related research capacity such as in breast cancer, rectal cancer and cardiac imaging.
 - In July 2018, the first digital PET-CT in Australia will be installed, with revolutionary new detector technology, and significantly improved scan sensitivity and resolution.
- The Interventional Radiology (IR) Service is a modern, specialised service that uses minimally invasive image guided techniques to diagnose and treat patients.
 - IR Services include General IR and INR (Interventional Neuro Radiology) and supports Vascular Surgery in Vascular IR.
 - Clinically integrated service with outpatient clinics and procedural lists, inpatient management and 24 hour emergent care.
 - Minimally invasive treatments are often lower risk than alternatives therapies, providing definitive outcomes for patients and streamlining patient care for many other clinical services. The result is a more efficient and cost effective system with improved health outcomes.
 - Liverpool Hospital provides Level 1 Interventional Radiology services covering all current internationally accepted procedures including at state-wide service for interventional neuroradiology, Digital Subtraction Angiography (DSA), multi machine environment including biplane, single plane and 3D capability, dedicated Interventional CT Scanner with full guidance package including 3D targeting and dedicated interventional ultrasound room with image fusion technology.
- The Department of Nuclear Medicine and PET provides a comprehensive range of tertiary level six diagnostic, consultative and therapeutic services for both inpatients and outpatients across SWSLHD and receives patients across NSW for specialised cancer imaging and radionuclide therapy services.
 - The Department also conducts research and participates in academic and training programs with affiliations with universities and professional colleges.
 - The strategic objective is to provide a customer focused clinical service that focuses on patient safety, and is progressive, innovative, efficient and accountable.
- The Molecular Science Cyclotron Facility (MSCF) commenced operation in May 2017 and is a state-of-the-art facility comprising of latest cyclotron technology and radiopharmaceutical production laboratories.
 - The facility is designed and purpose built to be compliant with good manufacture practices (GMP) standards, and aiming to meet Therapeutic Goods Administration (TGA) licencing requirements.
 - Supports and facilitates distribution of Positron Emission Tomography (PET) diagnostic and therapeutic radiopharmaceuticals for both routine clinical use and for multi-centre clinical trials,

and also to develop and validate novel molecular imaging biomarkers for both diagnosis and therapy.

- The MSCF supports the establishment of a state-of-art molecular imaging and therapy program, and places Liverpool Hospital and SWSLHD at the forefront of innovative molecular diagnostic and therapeutic services.
- Transforms how we study and treat various cancer, and also for the study of Alzheimer's disease and other types of dementia, various neurological and mental health conditions including brain injury, and cardiac disease, for individualised “precision” medicine.
- There is also current focus and plan to develop “Imaging informatics” division within the Medical Imaging stream in SWSLHD.
 - Medical Imaging stream has worked with the SWSLHD business performance unit to develop Medical Imaging Qlikview business analytics tools integrating RIS (Radiology Information System)-PACS with various hospital data platforms and cloud-based information systems, to drive service delivery redesign and improve efficiency and patient safety, and to change practice and funding guidelines.

Service Map Key

Key	Description
	Developing service
	Partial service
	State-wide service provision
	Lead service or Centre of Excellence
	Networked service i.e. linked to “lead” service
	Single service which provides services across the LHD
	Hub and Spoke clinic provided

Service Map – Medical Imaging Clinical Stream – Current

Medical Imaging					
	Bankstown Hospital	Liverpool Hospital	Fairfield Hospital	Campbelltown/Camden Hospital	Bowral & District Hospital / Southern Highland Private Hospital
General Imaging	General Imaging	General Imaging	General Imaging	General Imaging	General Imaging
CT	CT	CT	CT	CT	CT
Ultrasound	Ultrasound	Ultrasound	Ultrasound	Ultrasound	Ultrasound
Cardiac US					
Obstetric US					
Vascular US					
MRI	MRI	MRI		MRI	
Interventional Radiology		Interventional Radiology		Interventional Radiology	
Interventional Neuroradiology		Interventional Neuroradiology			
Interventional MRI					
Fluoroscopy	Fluoroscopy	Fluoroscopy	Fluoroscopy	Fluoroscopy	
Nuclear Medicine	Nuclear Medicine	Nuclear Medicine			
Nuclear Molecular					
Cyclotron		Cyclotron			
Positron Emission Tomography (PET)		PET			
PET/CT					
PET MRI					
Breast Diagnostic Mammography					
Imaging Informatics					
Paediatric Medical Imaging					
Bariatric Medical Imaging					

SWSLHD Strategic Directions

	Safe, Quality Care		A Healthy Community
<ul style="list-style-type: none"> • Consistently safe • Outstanding quality • Appropriate, timely care • Evidence based and patient-centred care • Cultural safety • Accountability and governance 		<ul style="list-style-type: none"> • Healthy people and communities • Safe, healthy environments • Knowing the needs of the community • Prevention and early intervention 	
	Collaborative Partnerships		A Healthcare System for the Future
<ul style="list-style-type: none"> • Consumer, patient and carer involvement • Genuine engagement and communication • Strategic partnerships • Funding opportunities 		<ul style="list-style-type: none"> • Building and adapting for the future • Networked and integrated services • Agile and innovative care • Responsive to community diversity 	
	Our People Make a Difference		A Leader In Research and Teaching
<ul style="list-style-type: none"> • Workforce for the future • Culture of respect and compassion • Employer of choice • Effective leadership and empowered staff 		<ul style="list-style-type: none"> • Delivering research innovation • Acknowledgement and recognition of research • Continuous education, teaching and training 	

Priority Developments for Medical Imaging Clinical Stream

Priority Service Developments (include in priority order)	Linkage with Clinical Service Plans
1. IR/ INR Liverpool	Liverpool Hospital - Operational Plan 2014 - 2018 Surgical & Procedural Care in South West Sydney
2. After hours diagnostic radiology staffing enhancement to support INR/ ED services. Liverpool & Campbelltown	Liverpool Hospital - Operational Plan 2014 – 2018 Strategic & Healthcare Services Plan – Strategic Priorities in Health Care delivery to 2021
3. Ultrasound Model of Care – Phases 1 – 3 including District wide after hours cover to support Phases 2 and 3	Strategic & Healthcare Services Plan – Strategic Priorities in Health Care delivery to 2021
4. IR Campbelltown 2016/17 service priority	Strategic & Healthcare Services Plan – Strategic Priorities in Health Care delivery to 2021 Surgical & Procedural Care in South West Sydney
5. Videoconferencing	Strategic & Healthcare Services Plan – Strategic Priorities in Health Care delivery to 2021 Information Communications and technology strategic plan 2015-2021
6. Molecular imaging and radiopharmaceutical program	Strategic & Healthcare Services Plan – Strategic Priorities in Health Care delivery to 2021 Cancer Plan 2018-2023
7. Imaging informatics staffing	Information Communications and technology strategic plan 2015-2021
8. IR network Model of care	Strategic & Healthcare Services Plan – Strategic Priorities in Health Care delivery to 2021 Surgical & Procedural Care in South West Sydney

Service Map – Medical Imaging Clinical Stream – Future (2026)

Medical Imaging					
	Bankstown Hospital	Liverpool Hospital	Fairfield Hospital	Campbelltown/Camden Hospital	Bowral & District Hospital / Southern Highland Private Hospital
General Imaging	General Imaging	General Imaging	General Imaging	General Imaging	General Imaging
CT	CT	CT	CT	CT	CT
Ultrasound	Ultrasound	Ultrasound	Ultrasound	Ultrasound	Ultrasound
Cardiac US					
Obstetric US					
Vascular US					
MRI	MRI	MRI		MRI	
Interventional Radiology	Interventional Radiology	Interventional Radiology		Interventional Radiology	
Interventional Neuroradiology		Interventional Neuroradiology			
Interventional MRI					
Fluoroscopy	Fluoroscopy	Fluoroscopy	Fluoroscopy	Fluoroscopy	
Nuclear Medicine	Nuclear Medicine	Nuclear Medicine		Nuclear Medicine	
Nuclear Molecular					
Cyclotron		Cyclotron			
Positron Emission Tomography (PET)		PET		PET	
PET/CT		PET/CT			
PET/MRI		PET/MRI			
Breast Diagnostic Mammography					
Imaging Informatics	Imaging Informatics				
Paediatric Medical Imaging					
Bariatric Medical Imaging					